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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,422	01/10/2002	Kazumitsu Nakatsuka	217962US0PCT	5990

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1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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DI NOLA BARON, LILIANA

ART UNIT	PAPER NUMBER
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1615

DATE MAILED: 08/12/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/030,422

Applicant(s)

NAKATSUKA, KAZUMITSU

Examiner

Liliana Di Nola-Baron

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final..
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of Applicant's claim for foreign priority based on an application filed in Japan on May 22, 2000. In the request for priority under 35 U.S.C. 119 and the international convention, Applicant states that a certified copy of the JP 149913/2000 application was submitted to the International Bureau in PCT Application PCT/JP01/04134. Attempts have been made by the examiner to contact the PCT division to obtain copies of the certified document.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Imazato et al. (U.S. Patent 5,733,949).

The patent to Imazato et al. provides an antimicrobial dental composition comprising an antimicrobial polymerizable monomer, a polymerizable monomer having acidic group, a polymerizable monomer having alcoholic hydroxy group, water and a polymerization catalyst (See col. 2, lines 27-34) and teaches that the composition may be mixed with dental acrylic

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adhesive comprising polymerizable monomer of acrylic base and polymerization initiator (See col. 6, line 66 to col. 7, line 27).

With respect to the antibacterial salt compound (a) claimed in claim 1 of the instant application and further defined as antibacterial pyridinium salt compound in claim 2, and having polymerizable group in claims 3 and 4 of the application, the patent discloses 12-methacryloxydodecylpyridiniumbromide (MDPB) having the chemical structure shown in Formula 4 as the antimicrobial polymerizable monomer used in the invention (See Examples 1-24 and claim 5 in the patent). MDPB is an antibacterial polymerizable pyridinium salt compound, as claimed by Applicant.

With regard to the polymerizable monomer having acidic group (b) claimed in claim 1 of the instant application, the patent discloses polymerizable monomers having acidic group, such as phosphoric acid, carboxylic acid or sulfonic acid group, and includes methacryloyloxydecyl dihydrogen phosphate (MDP) among said polymerizable monomers (See col. 5, lines 20-60 and Examples 5-12).

With respect to the hydrophilic polymerizable monomer (c) claimed in claim 1 of the instant application, the patent discloses polymerizable monomers having alcoholic hydroxy group, and includes 2-hydroxyethyl methacrylate (HEMA) among said monomers (See col. 5, line 61 to col. 6, line 11 and Examples 1-8). The polymerizable monomers having alcoholic hydroxy group

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disclosed by the patent, and specifically HEMA, are hydrophilic polymerizable monomers, as claimed by Applicant.

With respect to the water (d) claimed in claim 1 of the instant application, the patent provides water substantially free of impurities in the composition of the invention (See col. 6, lines 12-21).

With regard to the basic compound (e) claimed in claim 1 of the instant application and further defined as an aliphatic tertiary amine having polymerizable group in claim 5 of the application, the patent includes 2-(dimethylamino)ethyl methacrylate (DMAEMA) among the polymerizable monomers of acrylic base, which are used as adhesives in the compositions of the invention (See col. 6, line 66 to col. 7, line 27). DMAEMA is a basic compound, and specifically an aliphatic tertiary amine having polymerizable groups, as claimed by Applicant.

With respect to the polymerization initiator claimed in claim 6 of the instant application, the patent provides polymerization catalysts and initiators, including organic peroxides and camphorquinone (See col. 6, lines 24-43 and col. 7, lines 17-27).

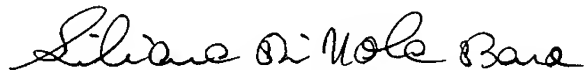
The compositions disclosed by Imazato et al. meet the limitations of claims 1-6 of the instant application, as the patent contemplates antibacterial compositions comprising an antibacterial salt compound, a polymerizable monomer having acidic group, a hydrophilic polymerizable monomer, water and a basic compound. Thus, the patent anticipates the claimed invention.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liliana Di Nola-Baron whose telephone number is 703-308-8318. The examiner can normally be reached on Monday through Thursday, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3592 for regular communications and 703-305-3592 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1234/ 1235.



August 8, 2003

Liliana Di Nola-Baron

Patent Examiner

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